# 2016 Spring Netting (SNII) Summary Report

## Stratton Lake (WBIC 259600)

Waupaca County



## Introduction and Survey Objectives

In 2016, the Department of Natural Resources conducted a three night fyke netting survey of Stratton Lake in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey are to characterize species composition, relative abundance and size structure. The following report is a brief summary of the activities conducted, general status of fish populations and future management options.

Acres: 63 Shoreline Miles: 2.15 Maximum Depth (feet): 42
Lake Type: Spring Public Access: 1 public access
Regulations: 25 Panfish may be kept, but only 10 of any one species, all other species follow Statewide Default Regulations.


WISCONSIN DNR CONTACT INFO.

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| Survey Information | | | | | | |
|---|---|---|---|---|---|---|
| **Site location** | **Survey Dates** | **Water Temp. (F)** | **Target Species** | **No. of Nets** | **Gear** | **Net nights** |
| Stratton Lake | 4/20/2016 - 4/23/2016 | 56 - 57 | Panfish | 7 | Fyke Net | 10 |

## Survey Method

- Stratton Lake was sampled according to spring netting (SNII) protocols as outlined in the statewide lake assessment plan. In this particular survey we were collecting panfish data for the special panfish regulations that have gone into effect for roughly 100 lakes throughout Wisconsin. Stratton Lake has a regulation of 25 panfish may be kept but only 10 of any one species.
- Fyke nets were deployed in areas of the lake that appeared suitable for panfish species. All fish captured were identified to species and measured for length. A subsample of fish were weighed and age structures collected for age and growth analysis.
- Fish metrics used to describe fish populations include proportional stock density, catch per effort, length frequency distribution and mean age at length.

## Fish Metric Descriptions
### PSD, CPUE, LFD and Growth

**Proportional Stock Density (PSD) is an index used to describe size structure of fish.** It is calculated by dividing he number of quality size fish by the number of stock size fish for a given species. PSD values in the 40 to 60 percent range generally describe a balanced fish population.

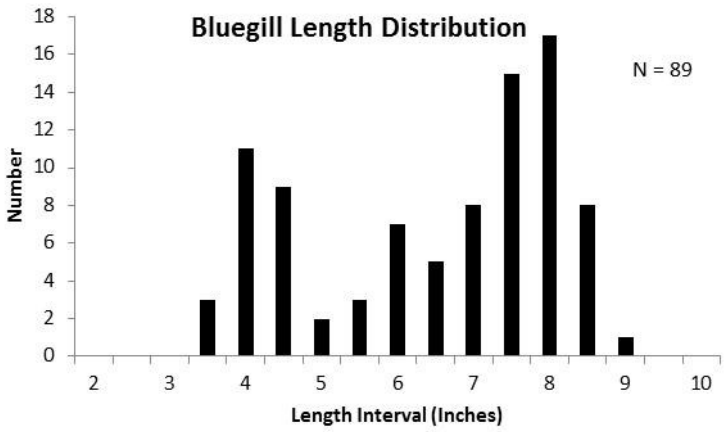
**Catch per unit effort (CPUE)** is an index used to measure fish population relative abundance which simply refers to the number of fish captured per unit of distance or time. For netting surveys we typically quantify CPUE by the number and size of fish per net night. CPUE indexes are compared to statewide data by percentiles and within lake trends. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

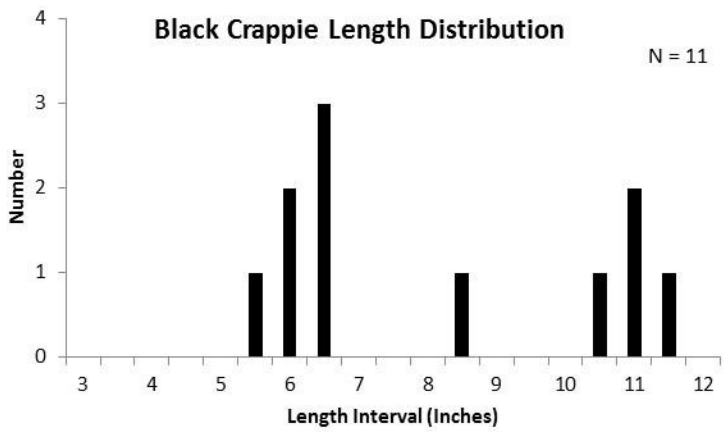
**Length frequency distribution (LFD)** is a graphical representation of the percentage of fish captured by one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.

**Mean Age at Length** is an index used to assess fish growth. Growth structures (otoliths, spines, or scales) are collected from a specified length bin of interest (e.g. 7.0-7.5 inches for bluegill). Mean age is compared to statewide data by percentile with growth characterized by the following benchmarks: slow (<33rd percentile); moderate (33rd to 66th percentile); and fast (>66th percentile).

| Size Structure Metrics | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Species** | **Total** | **Average Length (inches)** | **Length Range (inches)** | **Stock and Quality Size (inches)** | **Stock No** | **Quality No** | **PSD** | **Percentile Rank** | **Size Rating** |
| BLUEGILL | 89 | 6.7 | 3.5 - 9.1 | 3.0 and 6.0 | 89 | 61 | 69% | 65th | Moderate |
| BLACK CRAPPIE | 11 | 8.3 | 5.8 - 11.7 | 5.0 and 8.0 | 11 | 5 | 45% | 36th | Moderate - Low |
| LARGEMOUTH BASS | 1 | 13.3 | - | 8.0 and 12.0 | 1 | 1 | - | - | - |
| NORTHERN PIKE | 2 | 20.7 | 13.2 - 28.2 | 14.0 and 21.0 | 1 | 1 | - | - | - |

| Abundance Metrics | | | |
|---|---|---|---|
| **Species** | **CPUE Total (no. per net night)** | **Percentile Rank** | **Overall Abundance Rating** |
| BLUEGILL | 8.9 | 47th | Moderate |
| BLACK CRAPPIE | 1.1 | 31st | Moderate - Low |
| LARGEMOUTH BASS | 0.1 | 25th | Low |
| NORTHERN PIKE | 0.2 | 11th | Low |




| Growth Metrics | | | | | | |
|---|---|---|---|---|---|---|
| **Species** | **Total (N)** | **Length Bin (inches)** | **Mean Age (years)** | **Age Range (years)** | **Percentile Rank** | **Growth Rating** |
| BLUEGILL | 8 | 6.0 | 4.8 | 4 - 6 | 53rd | Moderate |
| BLUEGILL | 4 | 7.0 | 5.5 | 4 - 6 | 52nd | Moderate |
| BLACK CRAPPIE | 3 | 11.0 | 5 | 5 | 70th | Moderate - Fast |

## Summary

- A total of 166 fish in 9 species were collected during our survey. The most frequently encountered and common species were bluegill (89), green sunfish (19), black crappie (11), and rock bass (37).
- All fish captured were native species.
- Other fish species sampled in low abundance included green sunfish hybrid (1), largemouth bass (1), northern pike (2), pumpkinseed (2), and white sucker (4).
- Gamefish were sampled in low numbers, many largemouth bass were observed swimming in Stratton Lake. Electrofishing would be a more appropriate way to sample largemouth bass.
- Moderate numbers of panfish were sampled. A lack of suitable habitat made sampling difficult.
- Panfish populations were mainly comprised of bluegill, black crappie, rock bass, and green sunfish. Bluegill were found in moderate density and showed above average size structure with 69% of our catch greater than 6.0 inches and 55% greater than 7.0 inches. Black crappie were found in moderate levels of abundance and showed average size with 45% of our catch greater than 8.0 inches. Black crappie growth was average when compared to statewide data.
- Stratton Lake has been know to support a black crappie population. Clear water and lack of habitat made sampling difficult. Double-ended fyke nets were set in deeper water, which resulted in some success of capturing black crappie.

## Management Options

This survey was primarily intended to assess panfish populations. Other species are captured but different survey techniques are typically used to better assess their population metrics. Therefore, management recommendations are focused on bluegill and black crappie.

**Panfish**

- Panfish size structure was found at moderate levels.
- Management Objective: Maintain bluegill size structure and relative abundance at moderate levels.
- Management Action: A special panfish regulation was put in place in spring 2016 to protect some of the larger individuals from harvest and maintain the size structure of the panfish populations.

**Other Management Objectives:**

- Currently, Stratton Lake is on an 8 year sampling rotation. The DNR sampled Stratton Lake for the experimental panfish regulations that were put into place in the spring of 2016. In 4 - 5 years we will conduct another survey to assess the efficacy of the panfish regulation put into place.
- Fish habitat in Stratton Lake is very minimal. Bottom sediments consist of marl, and the water is clear. The lake would likely benefit from habitat and shoreline restoration projects, such as fish sticks and tree drops.